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OF  
POLITICAL AND SOCIAL SCIENCE.

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THE MUNICIPALITY AND THE GAS SUPPLY,  
AS ILLUSTRATED BY THE EXPERIENCE  
OF PHILADELPHIA.

The recent decision of the mayor and councils of Philadelphia to lease the gas works to a private company marks a change of policy of more than local importance. That the third largest city in the United States should decide to relinquish the control of one of its public works, after over forty years of quasi-municipal management and ten years of complete municipal ownership and operation, will naturally be construed as a confession of the inability of public authorities to administer public works successfully, or at least as an acknowledgment of the superiority of private over public management. For this reason, if for no other, the conditions under which the change has taken place deserve more than passing notice. A further element of interest presents itself in the fact that the abandonment of municipal management illustrates, with great clearness, the attitude of the population of our large cities towards municipal affairs.

The friends, as well as the opponents of the lease were generally agreed that the results of municipal management

of the gas works were not encouraging. This conclusion was reached, however, without a careful examination of the history of this municipal enterprise. It was deemed sufficient to point out one or two manifest shortcomings to settle the question. This attitude of many who were opposed to leasing, contributed greatly to strengthen the hands of the corporation bidding for the franchise.

To form a correct opinion of the success or failure of any municipal undertaking is by no means a simple operation. It involves an insight into the past and a discounting of the future; rare in any community, particularly in those in which the interest in public affairs is undeveloped. Factors of great future importance but minor present interest must be considered. A constant comparison of the relative advantages and disadvantages of public and private management must be made, and the tendencies manifested by each kept in mind.

It is not surprising, therefore, that the immediate advantages connected with the company's offer, should have proven an irresistible temptation to the people of Philadelphia. The comparatively weak active opposition encountered by the leasing proposition, is regarded by many as one of the most discouraging symptoms in our civic life. It would be difficult to justify this criticism. The interest of the population in the administration of the gas works is limited to the quality and price of the gas supplied. As regards the former, there had been just cause for complaint. Although gradually improving, the illuminating force had not risen above nineteen candle power. To ascertain the real causes of this defect required more careful study and discrimination, than are usually lavished upon public affairs, where the population is concerned with results rather than with causes. Results are tangible, and furnish the basis for an easy judgment of existing conditions; the ascertainment of causes requires careful analysis and far more time and thought than the average citizen feels can be taken from his private

affairs. It is true, that the opposition to the lease, carried on by a few public-spirited men, had begun to arouse the public to a consciousness of the fact, that motives, other than the mere desire to escape from the shortcomings of city management, should determine the granting of the franchise. This feeling was not given time to express itself. The lease was hurried through councils, discussion was systematically blocked and the ordinance was signed by the mayor without a moment's delay. Within a week of the signing of the ordinance the whole question had practically dropped from the public view.

The question first to be considered, is whether the period of municipal management was really characterized by failure. The answer to this necessitates a review of certain facts in the history of the works. By far the most important fact to be noted is that Philadelphia has had but ten years of responsible municipal management of the gas works. When the city, in 1835, first embarked upon the manufacture of illuminating gas, it was in the form of a combination of public and private ownership and management. In 1841 the city became sole owner, but the management was entrusted to a board elected by councils, which was to have full charge of the property and funds, and to act as trustees of the gas loan. No part of the profits from the works was paid into the city treasury. Soon after the creation of this body, which was known as the "Gas Trust," a conflict arose with the city councils. The trustees denied the right of councils to interfere with their management of the works. In this they were sustained by the courts, which held,\* that neither councils nor any other city authority could interfere with the trust's management until the maturity and payment of all the gas bonds placed under their charge. Not until July, 1885, was it possible to free the works from this irresponsible body, for not until then did these bonds mature.

\* Western Savings Fund Co. vs. Philadelphia, 31 Pa. State Reports, 175.

The period of responsible city management may be said to begin with the new city charter, known as the Bullitt Bill, which went into effect on the first of April, 1887. By the ordinance of April 4, 1887, councils organized the Bureau of Gas as a part of the Department of Public Works, thus placing this service under the control of an official, directly responsible to and removable by the mayor. The era of gas trust administration is of importance in judging the period of responsible city management, for it throws considerable light on the nature of the difficulties with which the city authorities have had to deal. The various investigations into the administration of the gas works, notably that of 1881, have thrown a flood of light upon the corruption, fraud and mismanagement which flourished under gas trust control. During the closing years of this irresponsible body, especially between 1875 and 1885, the plant was permitted to deteriorate; improved methods of production were ignored, mains and service pipes were allowed to rust and rot, and no attempt was made to adapt the plan of distribution to the increase in production and consumption. The works had gradually become filled and overfilled with the political subordinates and henchmen of the board. It was shown by the attorneys of the Committee of One Hundred, a body which aided the city in the prosecution of the trustees, that the superficial area of the property of the works, was not sufficient to accommodate those on the pay-rolls, even when placed shoulder to shoulder.

In 1887, the city fell heir to this mass of systematized corruption, together with a gas plant which was antiquated and dilapidated. The tests of efficiency in the public management of the works, must in fairness be restricted to the period since that date. That municipal management started out under the worst possible conditions is a fact not to be overlooked in judging of its success or failure.

The ten years between 1887 and 1897 give evidence of continuous and concerted effort to overcome the obstacles

to improvement which the period of gas trust management had accumulated. In the face of these difficulties the profits steadily increased, notwithstanding the fact that the city was no longer paying for the gas used in public lighting, as had been the case prior to 1887. In 1894, the price of gas was reduced from \$1.50 to \$1.00 per thousand cubic feet, which caused a sudden decline in gross profits. That the amount consumed in public lighting was by no means insignificant is shown by the following table:

Year.	Amount of Gas Consumed in Public Lighting, <i>i. e.</i> , Gas unpaid for.	Value at Current Price.	Value at Estimated Cost of Production and Distribution.
1887 . . . . .	506,499,881	\$759,749.82	\$683,774.84
1888 . . . . .	536,158,081	804,237.12	723,813.41
1889 . . . . .	521,401,101	782,101.65	702,891.49
1890 . . . . .	551,459,572	827,189.36	744,470.42
1891 . . . . .	587,398,328	881,097.49	792,987.44
1892 . . . . .	594,203,605	891,305.41	793,174.87
1893 . . . . .	602,392,714	903,589.17	813,230.25
1894 . . . . .	623,313,751	623,313.75	488,651.00
1895 . . . . .	638,494,005	638,494.01	480,795.20
1896 . . . . .	674,031,512	674,031.51	539,225.21

Furthermore, the relative amount expended for salaries and wages, was being gradually reduced by the city authorities. Thus, in 1870, in the manufacture of 1,240,485,000 cubic feet of gas \$941,740.40 was expended in salaries and wages, in other words, nearly seventy-six cents per thousand feet. By 1890 the amount had been reduced to twenty-seven cents per thousand, and in 1896 to twenty-two cents.

An examination of the reports during this period give unmistakable evidence of improvement in organization and business-like administration, within the comparatively narrow limits in which such improvement was possible. We are here brought face to face with the real source of weakness in the municipal management of the gas-works, *viz.*, the policy of councils. In this respect, Philadelphia furnishes a striking instance of a governmental weakness

characteristic of American cities. The universal experience has been, that if local representative bodies are permitted to direct the details of administrative policy, unbusiness-like methods are sure to result. With each new city charter, we find the power of councils further restricted until, in cities like the Greater New York, the local assembly is reduced to an insignificant position in the city government. In Philadelphia, the local assembly still retains complete control over the city's finances, which enables it to interfere in the details of departmental administration. If, under these circumstances, councils allows itself to be guided by the recommendations of the technically trained heads of departments—where such exist—there is still a possibility of business-like management. Otherwise, two powerful influences are sure to assert themselves: first, the desire to reduce the rate of taxation, regardless of the needs of municipal industrial enterprises; secondly, the temptation to use the control over public works for political purposes. Both of these influences showed themselves during the ten years of municipal management, although the latter was by no means as strong as during the gas trust administration. It is generally supposed, however, that the attempt to use the works for political purposes, *i. e.*, to have friends of councilmen placed upon the pay-roll, was the most serious obstacle to efficiency. As a matter of fact, this was a small evil compared with the short-sighted financial policy of councils. As we shall have occasion to see later on, the amount expended in wages and salaries was excessive. But while this evil was gradually being remedied, the financial policy of councils gave but little evidence of improvement. The most elementary business principles were disregarded. In every well-managed manufacturing enterprise, it is the custom to charge a certain amount each year to depreciation. This involves the expenditure of a certain percentage of gross profits to prevent actual deterioration. In any well-ordered account this constitutes a fixed charge

# THE MUNICIPALITY AND THE GAS SUPPLY.

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Year.	Gross Profits.	Expenditure for Extensions.		Excess of Profits used for other City Purposes.	Excess of Exten- sions and Im- provements over Profits.
		New Mains.	Service Pipes.		
1887 . . .	\$ 684,356 90	\$ 93,175 00	\$ 81,322 07	\$ 424,838 01	. . . . .
1888 . . .	781,012 80	128,568 32	91,059 71	397,808 41	. . . . .
1889 . . .	1,240,403 15	276,386 39	96,779 68	726,388 49	. . . . .
1890 . . .	1,331,019 41	136,642 17	105,580 70	830,645 91	. . . . .
1891 . . .	1,441,308 61	91,550 68	100,675 83	992,960 80	. . . . .
1892 . . .	1,425,789 12	133,629 00	100,932 40	1,041,922 38	. . . . .
1893 . . .	1,459,069 37	202,243 47	107,575 03	1,037,642 36	. . . . .
1894 . . .	192,310 81*	324,616 12	118,905 52	. . . . .	\$353,575 80
1895 . . .	284,589 56	3,100 00	113,873 11	51,843 42	. . . . .
1896 . . .	352,988 80	242,309 53	117,981 87	. . . . .	87,940 48
Totals . .	\$9,192,848 53	\$1,632,220 68	\$1,034,685 92	\$5,504,049 78	\$441,516 28

During the decade 1887-97 the excess of gross profits over expenditures for improvements and extensions was \$5,010,890.08.

\* Price reduced from \$1.50 to \$1.00.



to be met before gross, not to speak of net profits can be said to exist. In the case of the Philadelphia gas works, however, gross profits have been used to diminish the tax rate, rather than maintain the works at a given standard of efficiency. Between 1887 and 1897 nearly eight million dollars would have been available for the improvement of the plant. Hardly a sixth was used for this purpose. Year after year, the Director of Public Works urged upon councils the necessity of improved methods of production and distribution. With equal regularity, councils continued to use the profits from gas-making to defray general city expenses. The accompanying table on page 7 clearly illustrates this financial policy. The inevitable consequences of such business methods soon made themselves felt both in the manufacturing and in the distributing departments. The former showed an unusually high cost of production; the latter an inordinately high percentage of leakage. While the estimates of the cost of production, exclusive of the cost of distribution, differ somewhat, it is certain that it was not below forty-five cents per thousand, and probably nearer fifty. It was comparatively easy for private companies to offer gas to the city at a price far below this figure. The great improvements in the production of water gas have led the large companies in most cities to abandon the production of coal gas, or at all events to make water gas the most important part of the total output. A mixture of coal and water gas gives the most satisfactory results. The cost of production of the latter is comparatively low, owing mainly to the relatively low expenditure for labor. Instead of developing this more profitable part of the gas industry the city entered into contracts with the Philadelphia Gas Improvement Company to furnish water gas at thirty-seven cents per thousand cubic feet. These purchases, small at first, gradually increased until, in 1896, over 38 per cent of total gas used was purchased from the company. The purchases for each year have been as follows:

	Coal Gas Manufactured, Cubic feet.	Water Gas, Cubic feet.	Amount Expended for Water Gas.
1889 . . . . .	1,310,869,000	919,640,000	\$299,985 64
1890 . . . . .	2,042,059,000	1,134,922,000	425,283 75
1891 . . . . .	2,065,444,000	1,326,443,000	490,784 08
1892 . . . . .	2,233,238,000	1,351,351,000	500,000 00
1893 . . . . .	2,261,550,000	1,541,756,000	570,449 96
1894 . . . . .	2,803,838,000	1,306,563,000	557,428 38
1895 . . . . .	2,538,065,000	1,699,687,000	600,000 00
1896 . . . . .	3,021,570,000	1,891,891,000	700,000 00

While at first thought, the purchase of gas at thirty-seven cents seems advantageous to the city, the real effect was to retard improvement. The increased consumption of each year was being met, largely through purchase of water gas from a private company, thus removing the greatest incentive to improvement. Furthermore, as was shown by expert testimony before the committee to which the question of leasing had been committed, water gas can be manufactured at twenty-five cents per thousand, which means that the city was paying to the gas company a clear profit of fifty per cent on the gas thus purchased.

Another direct result of the failure to expend a certain percentage of gross profits on improvements, is shown in the cost and conditions of distribution. The Chief of the Bureau of Gas repeatedly called the attention of councils to the fact that the gas holders were not sufficiently numerous, nor were they so distributed as to secure the best results. In order to carry the gas to great distances, it was necessary to force it through the pipes at high pressure. The resulting friction robbed it of a part of its illuminating power, caused condensation and greatly increased leakage. The evil was further aggravated by the fact that the mains had not been enlarged to accommodate the increased volume of gas. It is not surprising, therefore, that the item "*gas unaccounted for*" increased with each year, until, in 1896, it amounted to nearly one-fourth the total amount manufactured. This alone meant an annual loss of over a million dollars.

Comparison with a few well-managed city or private enterprises, for which figures are obtainable, is of interest in this connection:

	Amount of Gas Manufactured, 1896.	Leakage and Gas Unaccounted for.	Percentage.
Philadelphia . . . .	4,913,461,000 *	1,132,646,138	23.9
Manchester . . . .	3,762,570,000	116,560,000	3.1
Glasgow . . . . .	4,525,000,000	425,500,000	10
Boston Gas Co. . . .	1,130,189,700	32,692,630	2.89
Brookline Gas Co. . .	753,824,000	58,590,067	7.77
Lowell Gas Co. . . .	315,073,000	20,232,700	6.42

Further evidence of the unfortunate influence of councils upon the administration of the gas works is to be found in the abnormal annual expenditure for wages and salaries. We have already seen that this constituted one of the great abuses during the period of gas trust management. Although the worst evils were remedied under responsible city control, much still remained to be done. In the first place councils had fixed a rate of wages far above the market rate. The Director of Public Works published a statement that instead of paying the 1700 laborers \$1.75 per day, he could obtain equally competent men for \$1.25. Whatever may be said in favor of "trades-union wages" in city employment, it must be remembered that this excess of fifty cents per day above the market rate involved an additional annual outlay of nearly \$275,000. The pay-roll was further increased through the addition of many laborers under the elastic account of "repairs." Comparison with the accounts of private and municipal gas works will show the drain of this item upon the resources of the Philadelphia works.

While, therefore, it is evident that the real weakness in city management lay in the policy of councils, there are distinct indications of minor evils due to the internal administration of the works. The most important of these

\* Including water gas purchased from Philadelphia Gas Improvement Company.

## EXPENDITURES FOR WAGES IN MUNICIPAL GAS WORKS.

WORKS.	Amount of Gas Consumed in Private and Public Lighting. Cubic feet.	Price of Gas per M. cubic feet.	Total Expenditure.	Expenditure for Coal.	Expenditure for Wages and Salaries.	Expenditure for Wages and Salaries per M. cubic feet	Relation of Wages and Salaries to total expense. Percent.
Philadelphia (1896) . . .	3,619,427,312	\$1 00	*\$2,852,103 11	\$1,049,969 29	\$1,194,191 00	\$0 32 <sup>9</sup> / <sub>10</sub>	41.8
Glasgow (1896) . . . . .	4,062,500,000	52 <sup>3</sup> / <sub>4</sub>	2,449,553 47	1,320,300 22	622,393 00	0 15 <sup>3</sup> / <sub>10</sub>	25.4
Manchester ((1896) . . .	4,300,165,000	54 <sup>3</sup> / <sub>4</sub>	2,222,903 00	1,120,058 47	473,890 00	0 11	21.3
Birmingham (1896) . . .	4,152,652,000	† 54 <sup>3</sup> / <sub>4</sub>	2,364,238 93	1,054,862 91	463,350 00	0 11 <sup>1</sup> / <sub>10</sub>	19.6

\* Exclusive of \$700,000 expended in purchase of gas from private company.

† Seventy-four cents for small quantities.

relate (1) to the purchase of materials, and (2) to the receipts from residual products.

During recent years the city has been paying between \$3.11 and \$3.14 per ton for coal, whereas it is a well-established fact that responsible firms were prepared to furnish the same quality at \$2.95. For some reason, which the Chief of the Bureau of the Gas has never satisfactorily explained, the bids of the firms offering coal at \$2.95 were invariably ignored. In this one item alone, the department could have effected an annual saving of between seventy-five and one hundred thousand dollars.

The failure fully to utilize residual products affected even more unfavorably the profit and loss account. The receipts from this source have averaged, within the last few years, about 30.6 per cent of the cost of coal—the main item in the expense account. That this percentage is far below the amount which careful business management would give, is shown by comparisons with private companies in the United States and with municipal gas works in England. The report of the Massachusetts Board of Gas and Electric Light Commissioners for 1896, gives full information on this point for the companies within that state. In the larger companies the percentage of the cost of coal realized through the sale of residual products ranges from 45 to 51 per cent. The average of forty-seven companies is 43.89 per cent. In the gas works of the cities of Manchester, Glasgow and Birmingham the percentage ranges from 43 per cent in the former to 56.2 per cent in the latter. Compared with these figures, the 30.6 per cent obtained in the Philadelphia works makes but a poor showing. The real cause of the difficulty is to be found in the fact that certain persons, either councilmen or for other reasons influential in local politics, enjoyed the monopoly of purchasing residual products at prices below market rates. Here, as in so many other cases, the influence of the local assembly is at the root of the difficulty. It is to be noted, however, that the period of responsible

municipal management gives evidence of increasing economy in the utilization of by-products as compared with the "gas trust" period. In 1870 the percentage was but 15.4; in 1875, 17; in 1880, 21.9; in 1896, 30.6 per cent.

Our analysis, thus far, tends to prove that the most serious defects connected with city management are traceable to evils inherited from a period which cannot give us a fair test of municipal efficiency. During the decade of responsible city control, we find abundant indication of improvement in every direction. That such improvement has not been more rapid is to be attributed to the short-sighted policy of councils rather than to defects in the administration of the gas department.

Before entering upon a discussion of the broader questions of public policy which are involved in the relation of the municipality to the gas supply, it will be well to consider the conditions under which the lease was effected.

Some years before the expiration of the gas trust period, combinations of capitalists began to speculate on the possibility of obtaining a monopoly of the gas supply. In 1883 the first definite offer was made;—\$10,000,000 for the plant and an exclusive franchise. During subsequent years new offers were forthcoming, which usually met with vigorous opposition in councils, as well as with the public. When in September, 1897, the mayor transmitted to councils the offer of the United Gas Improvement Company, it soon became evident from the attitude of the press, as well as the disposition of councils to stifle discussion and hasten action, that the plans of the leasing company had been carefully laid. It is not our purpose to enter into an analysis of the influences set at work by the company, as it would carry us too far afield in the discussion of corruption in local politics. It must be said, however, that whatever the nature of these forces, they were greatly aided by the attitude of a large portion of the business community. The prospect of securing gas of a better quality at a lower price, overshadowed for

the time being all other considerations. As a result, the permanent interests of the city were lost sight of. The gas works were handed over to that corporation whose proposals alone received serious consideration from councils, notwithstanding that other and more favorable offers had been made by responsible parties. In granting an exclusive privilege to this corporation the most elementary business principles were disregarded. It seems a commonplace to say that the consideration in return for a franchise should be determined on the basis of the value of the privilege. In this case, however, the only question which seemed to interest councils—and in this they were at one with the mass of the population—was whether the company was prepared to give better gas at a lower figure than the city, if so, no further conditions seemed necessary to safeguard the interests of the city. Had the terms of the lease been formulated with reference to the possibilities of profits to a company enjoying a monopoly of the gas supply, the results would have been very different. There was evidence on all sides that the population was gradually awakening to this fact; but so rapidly was the lease hurried through councils, that no opportunity was given to make such awakening effective.

The lease as finally signed gives to the company a monopoly of the gas-supply for a period of thirty years. At any time prior to July 1, 1907, the city may terminate the lease, on condition of reimbursing the company for all improvements, plus six per centum simple interest on the amounts thus expended. It is quite clear that the option thus given is one which the city will hardly be able to exercise. Taking the cost of extensions and improvements which the company has agreed to make during the first five years, the minimum price which the city will have to pay will be \$8,796,000. If similar improvements are made during the next five years of the lease the price will be over \$15,000,000. With the city debt close to the constitutional

limit, it is hardly likely that the option will be exercised. Unless exercised within the first ten years it is provided that the company shall have possession during the full term of thirty years. In return for the privilege the company agrees:

*First.*—To furnish gas of twenty-two candle-power at one dollar per thousand cubic feet.

*Second.*—To pay into the city treasury upon all gas sold prior to January 1, 1908, all sums received in excess of ninety cents per thousand cubic feet; after December 1, 1907, and prior to January 1, 1913, all sums in excess of eighty-five cents per thousand; from December 31, 1912, to January 1, 1918, all sums in excess of eighty cents per thousand, and from that time until the expiration of the lease (December 31, 1927) all sums in excess of seventy-five cents. Councils is given the power to reduce the price at the dates above mentioned to ninety, eighty-five, eighty and seventy-five cents respectively, in which case the city will receive no money rental.

*Third.*—To light, free of charge, all public buildings and lamps, and to provide for the lighting of three hundred additional lamps each year. All public lamps to be lighted, extinguished, cleaned and repaired at the expense of the company.

*Fourth.*—To expend within three years five million dollars in alterations, improvements and extensions, and at least fifteen millions for the same purpose during the thirty years of the lease.

*Fifth.*—At the expiration of the lease, December 31, 1927, the city is to receive the works "without charge or cost in the condition of alteration, improvement and change in which the same shall then exist, and the same shall be so maintained as to be then in first-class order and condition."

It would seem, at first glance, that these provisions assure to the city a large return for the franchise. To judge of this, however, one must enter upon an examination of the possibilities of profit which the company enjoys. It is to be noted, that if the price of gas is successively reduced from one dollar until it reaches seventy-five cents, the city will receive nothing from the company except free light for public lamps, and the plant at the expiration of the lease. With the present increasing rate of consumption for public lighting the city will soon be paying large sums into the



company's treasury. During the year 1896 the city erected 1739 additional gas lamps. With this rate of increase the city will be compelled to pay for the lighting of many thousand lamps within a few years. The contract, therefore, amounts to this: the city places the gas works in the hands of a private company for thirty years, in return for which the city is to receive a certain amount of gas for public lighting free of charge. During this period the population will be compelled to pay one dollar per thousand for ten years, eighty-five cents for five years, eighty cents for five years, and seventy-five cents for ten years. The agreement to expend fifteen million dollars in extensions and improvements cannot be regarded as a burden upon the company, as it represents nothing more than a profitable investment of capital, such as every business man would be compelled to make in order fully to utilize the opportunities of his business.

In the discussions in councils and in the public press, the price which the citizens of Philadelphia will have to pay for gas during the next thirty years has been largely lost sight of. An examination of these rates will show the great value of the franchise to the company, as well as the inadequacy of the return to the city. One of the most striking facts in the history of gas-making has been the great improvements in methods of production that have taken place during recent years. Within five years the price of gas under city management was reduced from \$1.50 to \$1.00 per thousand. There is not the slightest reason to doubt that changes of equal importance will take place in the near future. In this connection, the experience of English cities is of interest. In Glasgow the gas works came under municipal control in 1869. During the first five years of city management the price was gradually reduced from \$1.35 to \$1.14 per thousand cubic feet. With each improvement in production the price was lowered until, at present, gas of twenty-four candle power is offered at 52½ cents. Manchester began to

manufacture its own gas as early as 1807, and is now charging  $54\frac{2}{5}$  cents per thousand. The same price obtains in Birmingham, where the city took over the gas supply in 1874. In almost every case, whether at home or abroad, a reduction of from  $33\frac{1}{3}$  to 50 per cent has taken place during the last twenty years. Compared with these figures the price which the Philadelphia company will receive is excessive. Unless the company does it voluntarily, it will be impossible to effect a reduction of more than 25 per cent during the next thirty years. At the end of that period, viz., December 31, 1927, the price will still be 50 per cent above the *present* price in English cities.

But, it will be said, English cities are able to offer gas at a low price because of cheaper materials and the lower rate of wages. As regards the former, the price paid for coal is about 20 per cent below that paid in Philadelphia. A comparison of the rate of wages will show, that while the average wage was 30 per cent higher under municipal management in Philadelphia than in Glasgow, Birmingham, or Manchester, the difference was due largely, if not wholly, to the fact that councils had fixed the wages of employes far above the market rate. From testimony of the Director of Public Works of Philadelphia, as to the cost of labor, it is safe to say that the rate paid by the present company will not average 10 per cent above the English rate. It is to be noted, furthermore, that the Philadelphia management was paying an unusually high price for coal, which the United Gas Improvement Company will undoubtedly reduce. What is still more probable is that water gas will gradually replace coal gas, thus permitting the substitution of oil for coal; a raw material which may be obtained more cheaply in Philadelphia than in Glasgow or Birmingham.

It is clear, therefore, that there is no such great difference in the cost of production as is generally supposed. With the price of gas nearly fifty per cent lower than in

Philadelphia, the profits of municipal gas works of English cities in 1896 were as follows :

	Price of Gas per thousand cubic feet.	Gross Profit exclusive of amt. debited to deprecia- tion.	Amount paid to Sinking Fund to li- quidate gas loan.	Net Profits.
Glasgow . . . .	52 $\frac{2}{5}$ cents	\$880,692 97	\$334,753 55	\$545,939 42
Manchester . .	54 $\frac{2}{5}$ cents	555,222 26	221,293 72	333,928 54
Birmingham . .	54 $\frac{2}{5}$ cents	756,775 84	504,430 50	252,345 34

If the profits reached such figures with the price at 52 $\frac{2}{5}$  and 54 $\frac{2}{5}$  cents, it is of some interest to estimate the probable profits with gas at 90 cents per thousand,—the rate which the United Gas Improvement Company will receive from the citizens of Philadelphia until December 31, 1907.\*

	Profits at 90 cts. per thousand.
Glasgow . . . . .	\$2 374,098 03
Birmingham . . . . .	2,143,157 42
Manchester . . . . .	1,888,273 50

In this comparison our object has been to arrive at some conclusion as to the possibilities of profit in a monopoly of the gas-supply, which should be the guiding principle in the granting of a franchise of this kind. We have seen that, according to the terms of the lease, the people are debarred from participating in the benefits of improved production during the next three decades. The testimony of experts before the finance committee of councils was to the effect, that it was possible at the present time to manufacture gas of twenty-two candle power at twenty-five cents per thousand, and that the cost of distribution should not exceed ten cents. The possibilities of profit at ninety or even seventy-five cents, without taking into consideration future improvements further cheapening the process, have been shown in the figures from English cities. It is beside the question to say that Philadelphia was not able

\*In this calculation we have assumed the present rate of consumption.

to produce gas at this price. In determining the return for the grant of a franchise, what the city can or cannot do in performing the same service, is a question of secondary importance. The only sound basis of negotiation is the value of the franchise to the party seeking it, in other words, the possibilities of profit which the company will enjoy.

Having examined the lease as a purely business relation between the city and the company, there still remains to be considered the abandonment of this municipal function from the broader standpoint of general municipal policy. The attitude of the population to this phase of the question may be regarded as typical of our American communities and furnishes a striking instance of the lack of civic ideals in our city life. Throughout the discussions of the subject, little thought was given to the influence of such a curtailing of city functions upon the civic life of the community. Nor was the possible social function which the city might perform in the administration of the gas service considered worthy of attention. This attitude of the population accounts for the feebleness of the opposition and the boldness of councils in stifling discussion.

We have already seen, that from a purely financial point of view, the contract with the United Gas Improvement Company can hardly be said to have given due recognition to the interests of the city, nor to those of the population as consumers. Furthermore, that the ten years of municipal management, far from giving evidence of financial failure, show steady improvement in organization and management. Such shortcomings as existed were due to clearly assignable causes that might readily have been remedied. In abandoning the control of the gas-works, the valuable experience acquired during the period of municipal management has been practically thrown away. There is no easy and direct road to efficient public administration. In every department, efficiency is gradually attained through slow and laborious accretions of small improvements. When therefore,

thirty years hence, the city again comes into possession of the gas works, it will be compelled to meet difficulties equal to, if not greater, than those of the last ten years.

Furthermore, in parting with the gas works the city deprives itself of the power of performing an important social service. Until recently, financial considerations have ruled supreme in determining the sphere of municipal activity beyond the minimum of protection to life and property. We are beginning to see that social standards should be given some weight in municipal policy. The many points at which municipal activity touches our industrial and social life gives it a far-reaching influence in elevating or degrading this life. In the relation of the gas-supply to the standard of life and the industrial efficiency of the population we have a most conspicuous instance of the influence the municipality can exert. Here again, we must turn to the English cities for enlightenment.

That the use of gas is playing an important part in the economy of modern life requires no demonstration. Neither will any one doubt that it is destined to play an increasingly important part for some years to come.

At the time the gas works were placed under municipal control in Glasgow, and the same statement applies to the other cities of Great Britain, the use of gas was limited to the well-to-do classes. After careful study and inquiry, the municipal authorities came to the conclusion that to introduce its use for cooking and illuminating purposes by the working classes, particularly in the thickly settled tenement districts, would work radical changes in their mode of life. The wastefulness of the coal stove and the comparatively high cost of its maintenance, had given to uncooked foods an important place in the standard of life of these classes, a fact that seriously affected their industrial efficiency and physical vigor. The widespread use of alcoholic liquors was largely to be explained by the crude diet of the poorer classes. It was evident that the introduction of a new

element into the standard of life could only be effected by the city through a temporary subordination of financial considerations. In order to facilitate the use of gas for illuminating purposes, automatic penny-in-the-slot meters were introduced. For two cents a large burner could be supplied for a period of five hours. Furthermore, the city inaugurated the policy of renting gas stoves, making all connections free of charge. At first, the use of automatic meters was small, but with each year the number has increased until at the present time we find over thirteen thousand in use in Manchester. With each year the number of gas stoves rented by the city is increasing. In 1896 Glasgow rented 12,762 and Manchester 9403.

The influence of this more general use of gas upon the standard of life is strongly evident to anyone examining the standard of life of the working classes in the English cities. The use of cooked foods is far more general than was the case ten years ago. That this change has had an influence upon the health and industrial efficiency of the population is attested by the testimony of health officers. Furthermore, through the low price of gas, the city has been able to exert an influence upon industrial conditions. The introduction of the gas engine to replace the steam engine has given a new lease of life to the small manufacturer.

In pursuing this policy in the gas administration, the English cities have been carrying out a general principle which pervades the management of all their quasi-public works. The municipal street railway systems are being used to effect a more equable distribution of population; the municipal water supply furnishes hydraulic power at low rates; and the municipal gas supply is contributing to the improvement of the standard of life and of the industrial efficiency of the population. The municipality, for this reason, represents a far more positive force in English city life than in the United States. That American municipalities must, in time, perform the same functions is evident

to anyone who has followed the course of municipal development in this country. To relinquish public works means simply to postpone the period when such service is to be performed.

From whatever point of view the change of policy in Philadelphia be examined, the conclusion that it marks a retrograde movement, is unavoidable. This is particularly true when it is looked at from the standpoint of civic progress. The recent history of American municipalities has shown that the inability of our city governments to maintain control over private corporations performing quasi-public functions constitutes the greatest danger to American local institutions. It is scarcely an exaggeration to say that these corporations have succeeded in intrenching themselves as the real power behind the constituted authorities, in all matters affecting their interests.

We usually take for granted that the most effective means of eliminating corruption is to reduce to a minimum the functions which the municipality performs and are surprised to find that this method, in reality, increases the evil. The cause lies on the surface. With every diminution of city functions we increase the influence of irresponsible corporate bodies. The real problem before us is to eliminate such corporate influence. Until this is done, all efforts for more efficient administration are almost certain to fail of their purpose. In those very classes that should furnish leaders in our civic life, we find waging the conflict between private interest and public welfare which usually results in the triumph of the former. Attachment to the city is not sufficiently strong in American communities to withstand the temptation of private gain. The absence of city ideals makes the citizen feel that responsibility for the safeguarding of public interests rests with the constituted authorities rather than with himself. To those who have studied the growth of our large cities, the introduction of a new and powerful corporation into the public life of the community means another obstacle

to civic advance. As regards Philadelphia, the danger is increased by the fact that the monopoly of the street railway and the gas and electric light service is vested in the same combination of individuals.

At a time when the true relation between municipal activity and social progress is finding acceptance with a constantly increasing percentage of our population, it seems peculiarly unfortunate that Philadelphia should offer so discouraging an example to American cities. In England and Scotland some 168, in Germany over 335 municipalities own and operate their gas works, with an efficiency which private corporations would find difficult to equal and certainly could not surpass. Whether the cities of the United States will develop an equally efficient administration remains to be seen. Upon their ability to do so depends the future of our democratic institutions. Whatever be the steps in the process, it is certain that no single and sudden change will effect the desired end. The population must be prepared to meet temporary discouragements and to withstand the temptation to throw off the burden of public service in favor of private agencies. Until this is done, until we are able to discriminate more clearly between the temporary and permanent interests of our municipalities, the road to good city government will remain closed. Though logical deduction and *à priori* reasoning may furnish all sorts of simple remedies; the order of historical development is more complex; encountering difficulties that must be consciously met by every progressive society. Temporary expedients may postpone but cannot avoid the vital problems of governmental activity. Their successful solution soon becomes the requisite for civic advance.

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